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CAMELLIA JAPONICA. (Warratah Kurtzii.)

[It is with some degree of pleasure mingled with pride, that we offer a representation of a splendid seedling Camellia, raised in America by Mr Edward Kurtz, an efficient member of the Maryland Horticultural Society. The admixture of yellow in the centre petals appears to us a new feature in this charming tribe.—T.]

Produced from seed by Mr Edward Kurtz, an amateur, of Baltimore, Maryland. It flowered for the first time on the 25th March, 1835. It was raised from seed of the old anemone flowered Camellia. Its form that of the anemone flora; the outer large petals of a fine clear carmine, cordate and finely veined. The centre petals, white grounded with occasional sulphur tinges and beautifully pencilled with deep bright pink, many of them edged with yellow. In its perfect state, the centre was very compact, petals small, erect and mostly well formed. The painting was made on the day the flower fell off, and consequently represents the centre somewhat deranged; but in other respects it is an exact likeness.

The mode of culture pursued by the producer of this plant, is that generally adopted by most cultivators of the Camellia. It is however given in brief terms:

The seed was planted as soon as it was ripe, (to prevent its drying, which is injurious,) in deep four inch pots, one seed in each, covered half an inch deep. Compost, two parts good loam and one part leaf or peat mould. Placed in the green house, kept moderately moist. A good frame with moderate bottom heat the producer thinks would

answer better than a green-house. The young plants began to show themselves in the beginning of the following April. When they attained the height of ten or twelve inches they were shifted into pots a size larger, where they were left to flower, the same compost being used as with the seed. They generally flower in four or five years. During summer, the plants are placed in an airy open situation, not exposed to the mid-day or afternoon sun. The morning sun is considered congenial to them. In warm weather syringing two or three times a week, is beneficial. By this treatment, strong wood, fine colored foliage and free flowering, are produced.

The Maryland Horticultural Society considered this Camellia entirely distinct from any that has appeared amongst us, and an addition to our ornamental collections sufficiently important to authorize special notice and distinction, and therefore passed the following resolutions:

Resolved, That the new Camellia exhibited by Mr Kurtz, be named by the Society, the *Camellia japonica warratah Kurtzii;* and that a correct drawing be attained of it at the expense of the Society, and, together with a full description of the flower, offered for publication in some Horticultural work. GIDEON B. SMITH,

Cor. Sec'ry, Maryland Horticultural Society.

To grow the Camellia in great perfection, considerable care is necessary. Any one in repotting their plants, will observe how liable the roots are to get matted together so as to render them altogether impervious to water, which often runs down by the sides of the pot, leaving the middle dry. After the plants have done flowering, that is from February to the middle of March, there is a short state of rest preparatory to forming the spring shoots; this period should be taken advantage of to repot, and supply the roots with fresh earth. As much of the old exhausted earth should therefore be carefully removed as can be safely done without disturbing the young roots, a blunt stick is best used for this purpose, and the plant then put with fresh earth into a size larger pot, well drained at the bottom with potsherd. Some heat is now requisite to assist the new shoots in starting and to render them vigorous; from this period until they have done growing, water should be abundantly supplied, occasionally over the leaves to keep them healthy. During the summer they should stand well exposed to the air, but with only the morning sun, and even this ought not to strike on the pots. This part of the treatment, however, may be varied by keeping some plants in the Vinery all the summer,

they will then probably flower the latter end of October, and if the previously described operation is pursued as soon as the flowers are over, the following season the blossoms will open in the beginning of October; by this mode of keeping some in a warmer temperature, a regular succession may in a few years be obtained from September to June. When the buds are about to open, the plants should be removed to a cooler atmosphere, as warmth very soon robs the flowers of their beauty, nor indeed do they ever expand favorably in great heat. It must be observed, however, that the plants which come out from December to the end of March, are generally larger and more perfect than those at earlier or later periods. With regard to soil, I can add but little to the information in the preceding communication, except that Sweet says, Messrs Loddiges found very light loam to answer as well or better than loam and peat, and in the celebrated garden of Comte de Vandes, rotten manure was mixed with loam and peat. Those, and they are many, who make a parlor plant of the Camellia, are often disappointed and discouraged at seeing the apparently well formed flower buds turn brown and drop off, just when expected to open. With some this arises from not having been repotted the previous spring; it is evident that the numerous roots must have exhausted all the goodness of the soil in forcing shoots and buds. Water will then just keep the plant alive, but affords no strength for the flower to come to perfection. With others the plant is much injured by the strong dry stove heat kept up in the room, a state of atmosphere not at all congenial to the Camellia, and particularly when flowering: the leaves must at all times be kept clean and free from dust. A little attention to these points, particularly not suffering them to stand during the summer in the hot sun, and keeping them well watered, would make the parlor cultivation of this plant by no means difficult. When placed out of doors, they should not stand too near each other, a free circulation of air improves their appearance and strength.

Last summer, the writer observed to several Camellia growers who were raising seedlings, that if these were inarched the second year on a large and old single red stock, it was probable a year or two would be saved in ascertaining the value of the seedling, as all trees come into bearing earlier by this method. An apple seedling will be seven to nine years before it produces fruit, but if a shoot of it when only two years old be grafted on an old tree, the fruit will show itself, probably in four years, — even the shoot of a seedling one year old will sometimes succeed.

Dr Von Siebold has just published a work, partly the result of his late visit to Japan, called *Nippon Archief voor de Beschrijving van Japan, &c. &c.*, or " Archives for a Description of Japan, its Dependencies and Vicinity," compiled from Japan and European publications as well as from his own personal observations. In the second part, there is an interesting dissertation on the Tea plant.

The author states that the *Thea sinensis* is the original plant which is not indigenous either in China or Japan, but was introduced into these countries in the beginning of the 9th century from Koorai, and has been under careful cultivation ever since. From this plant the following varieties have originated.

1. Thea with small leaves of a very dark color, the Thea bohea of others. 2. Thea or larger leaves of a lighter color, the Thea (viridis) green : from the first of these sprung Thea sinesisstricta, and Thea sinensis rugosa; from the second, Thea sinensis diffusa, and Thea sinensis macrophylla.

These descriptions are accompanied by beautiful plates drawn from nature. There is in this work much curious information on the cultivation of the plant, and the manufacture of the Tea of commerce, in course of which it is stated that the odor of this article is not produced as has been imagined by the admixture of other fragrant flowers, but that like Coffee, it is the result of gentle roasting, by which the leaves of the Tea plant are dried, being constantly stirred during the operation. This has subsequently been tried in Germany with leaves from Theas in the Conservatory, and the well known odors after some days' trial have been perfectly produced.

Professor Ness Von Esenbeck, to whom this information was communicated for revision and examination, previous to publication, has added many important observations. According to his views the genera Thea and Camellia, on account of their peculiar nut-like seeds, and the absence of the albumen in them, should be formed into a distinct order to be called Theaceæ, nearly allied to the Ternstræmaceæ family, these with Guttiferæ, Hypericineæ, Marcgraviæ and Tiliaceæ, would form a very natural class, the next link to the true Malvaceæ. The fruit of the Ternstræmaceæ is hardly sufficiently known to decide whether Gordonia of Decandolle, (the Loblolly bay which grows in the Cedar Swamps, on the sea coast from Virginia to Florida,) should be added to the Theaceæ, or this latter simply confined to Thea and Camellia — the species Sasanqua, which was properly formed from Camellia Sasanqua by Thunberg, must, however,

at all events be added to it. The scientific botanical description in Latin of these three varieties, are given at full length, they would not be interesting to the mass of our readers — at the end them is a quere whether, perhaps the Thea oleosa and Camellia drupifera of Loureiro belongs to Theaceæ.

We close this article with a catalogue of the most select sorts, cultivated for sale by Messrs Chandler & Sons, Nurserymen, Vauxhall, London. The prices are those of this season for strong young plants.

CAMELLIA.

	s.	*d.*		*s.*	*d.*
Double White,	3	6	Gray's Invincible or Punctata,	10	6
Do. Red,	3	6	Press' Eclipse,	10	6
Single White,	3	6	Do. Single white sriped,	7	6
Double Striped,	3	6	Elphinstonia,	10	6
Pompone or Kew Blush,	5	0	Chandleri,	7	6
Pæoniflora,	5	0	Elegans,	10	6
Variabilis,	5	0	Eximia,	10	6
Waratah,	5	0	Anemoniflora alba,	7	6
Fimbriata,	5	0	Florida,	7	6
Hume's Blush or Buff,	3	6	Speciosa,	10	6
Wellbankiana,	5	0	Alba semi duplex,	10	6
Myrtifola,	5	0	Splendens,	7	6
Althæflora,	7	6	Colvillii,	21	0
Sasanqua Rosea,	5	0	Cliviana,	10	6
Atrorubens,	5	0	Sabini,	21	0
Woodsii,	10	6	Park's Rose Striped,	10	6
Aitonis, single red	7	6	Conspicua,	21	0
Rosa Sinensis,	7	6	Dorsetia,	21	0
Corallina,	10	6	Decora,	21	0
Concinna,	10	6	Sericea,	10	6
Wiltoni,	10	6	Incomparabilis,	10	6
Imbricata,	15	0	Augusta,	21	0
Reticulata,	31	6	Formosa,	21	0
Gray's Rosa Mundi,	7	6	Purpurascens,	10	6

ON PARTY SPIRIT IN HORTICULTURE.

START not, reader; the caption of this article forebodes no bloodshed in America, and however violent the spirit, the subject is merely a ROSE.

It is in the great commercial, free Hanseatic city of Hamburg, in Germany, that this flame of discord has been kindled, which threatens even to falsify the line of the great delineator of the human character, that,

"A rose by any other name would smell as sweet."

It appears that Messrs Booth, proprietors of the Flottbeck Nursery, near Hamburg, had raised a new rose from the seed of the old and well-known Maiden's blush, which is described as wonderfully beautiful (wunderschön) and of which they had consequently sold a large quantity. This they called in their catalogue the Queen of Denmark rose.

Professor Lehmann, Director of the Hamburg Botanic Garden, in his descriptive catalogue remarks on a variety of the rose, there called La Belle Courtisanne, that this rose was described in France in 1806 as a hybrid between the old Dutch hundred leaf and the Maiden's blush.

The roses being identical, Messrs Booth felt the honor of their well regulated nursery at stake, and after some slight warfare in their respective annual catalogues, these gentlemen published a pamphlet on the subject, which was replied to by the Professor in the newspaper. This produced a very bitter and personal rejoinder from Messrs Booth, in a second pamphlet, which was distributed gratuitously.

The Professor having stated that the rose in question was figured in the magnificent and expensive publication, with colored plates, by the celebrated Redouté, fellow pupil with Audubon, of David the painter, he procured the work and left it out for public exhibition. Redouté's figure was generally considered identical with Booth's Queen of Denmark, although these gentlemen would scarcely allow it.

A hot war of affidavits, letters of proof, and documents now commenced, the most interesting of which is a letter from the distinguished veteran botanist, Thouin, who died in 1826, dated in 1824, which gives some good explanations of the Professor's strong declaration, and shows that the Belle Courtisanne rose, under this name,

was sent by Thouin to the Hamburg Botanic Garden, from whence it was also distributed to many other gardens.

Messrs Booth hereupon published gratis a most offensive pamphlet, entitled "Victory of the Queen of Denmark Rose, unveiling the motives of the attack of Professor Lehmann." To this the Professor published a cool and well written reply; the friends on each side began to publish also — accusation and retorts were liberally scattered and the plague of party spirit spread far and wide. We do not think, however, it will terminate in a continental war.

That elegant German writer, Wieland, in his fiction of the history of the people of Abdera, a town in ancient Greece, relates that a citizen of the town hired an ass; the day being sultry, he took it into his head during his ride, to dismount from the patient animal, and sit down for a time in the shade of the creature's body. The owner demurred to this proceeding, and demanded additional hire, having, as he stated, only let the ass, and not his shadow. After a warm altercation, both returned to the city and went before the magistrate. The question now became altogether one of party, in which no neutrality was permitted, and the whole city was soon divided into two violent sides, one of which obtained the appropriate distinctive appellation of *Asses*, and the other of *Asses' shadows*. During a popular commotion on this quarrel, the innocent cause of it was torn limb from limb — thus even the shadow of an ass was annihilated, and had not some other question of equal importance been started, which threw this into oblivion, the result would no doubt have been disastrous. We disclaim the slightest idea of an offensive application of the above story; it is enough to show how well those understand the human heart who describe a trifle as sufficient to inflame the bad passions of mankind.

The highly talented German botanist, Nees Von Esenbeck, writes two letters on this quarrel, which have been published in the *Allgemeine Botanische Zeitung*, (General Botanical Newspaper) commencing in something like the following lively vein:

"How much that is beautiful, joyous, and endearing has been written and said on the Rose; how much that is delightful on its character? how many exquisite ideas has it inspired to be breathed by Love? The beauty of this flower must sink deepest into our imagination, when its appearance forces us to associate with it every feeling that is tender, delicate, and luxurious. How anomalous, how absurd, then, the idea that the Rose can engender feelings of division and

strife. I am convinced that in the beautiful manuscript of my young friend Doring, 'On the Character and Nature of the Rose,' there is not even the smallest chapter on the fruit of Rose as an apple of discord."*

It is hardly worth while to read every statement and counter statement in this quarrel, but we believe that Messrs Booth, the nursery men, must have the best of it, as undoubtedly the excitement has enabled them to sell the greater part of their stock of this rose, as well as of many others approaching to it in character, to enable a comparison; while the publishers of Redouté's work on roses have certainly disposed of several copies to persons who have withstood the best newspaper puffs that ever were penned.

OF THE USE OF THE KNIFE IN HORTICULTURE.

The knife is hardly second in real value to the spade or the hoe, if it be used sufficiently, and with judgment. Among young gardeners too much caution is observed, and the fear of cutting off an apple or a peach in embryo, saves many a branch from being removed, to the great detriment both of tree and fruit, — so with flowers, the great reluctance to use the knife is the cause that many climbing plants like the honeysuckle, look naked and straggling for many feet from the ground, when by proper pruning they might be covered with beautiful foliage, concealing the crooked and unsightly stems. Roses are generally suffered here to go untouched by the knife, when the usual practice in Europe is very early in the spring to cut them down (except climbers) to within four or five inches of the ground; those who have been made best judges by experience, consider this method of treatment increases the quantity, size and beauty of the flower, and my own experience fully confirms this; there is no doubt however that the practice may be carried too far, but that is not the failing here at present. According to the most recent and approved system of vegetable physiology, every bud is a separate vegetable being, the trunk and

* The apple was placed by Decandolle in the Rosaceous family, from which it is now, however, properly separated. It is classed with others in a distinct order callek Pomaceæ, from Poma, an apple. The figure of Nees Van Esenbeck, of the rose fruit being an apple of discord is therefore not so far wrong as may appear at first sight.

branches on which it exists being little more than a soil where it has taken root, and by which it is supplied with juices fit for its habits — this is evident from the buds inserted into rose trees, they push their roots into the stock, and from thence draw their sustenance, but the flower is altogether the same as the bud, and does not resemble that of the original stock. This last, certainly raises the sap most congenial from the earth and supplies it to the bud in its increasing state, but the process of analysing this juice and forwarding each component and prepared part to its assigned function, remains with the new plant and is performed according to the habit nature has impressed on the inserted bud, producing corresponding flowers.

The tubers of the potato and young bulbs, are also subterranean buds, in which the principle of vegetable life is incased in substances wisely provided, and sufficient for their preservation until the proper season of their developement arrives.

The seed also is only a bud with different qualities, technically called the embryo, enveloped most frequently in what are termed cotyledons, which protect it during its inactivity and nourish it before the radicle or root is able to perform this office with juices extracted from the earth. To this existence of cotyledons, there are some exceptions ; they are sometimes replaced by other contrivances, but these do not alter the value of the argument. In cutting off branches containing buds, therefore, we are merely acting like the man who has sown his seed too thick, and finds it necessary to thin out his plants in order that what remains may arrive at perfection. And to do this with judgment in pruning, it will be necessary to draw largely on the experience of others, particularly as to the most proper season of performing this essential operation.

For beginners, the first consideration in pruning fruit trees should be on what part of a branch is the fruit borne ; thus on the apple tree it is borne on short spurs arising from ripened wood ; the same with pears. The next consideration is the shape in which it is most desirable the tree should grow ; the third, how to expose as much of the fruit as possible to the ripening influences of the sun and air.

Therefore, in cutting the above mentioned trees, care must be taken to remove as little of the ripened spur bearing wood as possible, but principally the long wiry shoots which have buds at great distances ; in many of the apple tribe strong straight branches will appear in the centre, which divert much of the strength of the tree, and

would be of little use if allowed to grow to perfection, or the fruit could not be sufficiently exposed to ripen unless desired to replace a branch decayed. The pear requires much less cutting than the apple, but it is unwise and injurious to mutilate any tree too much at a time, annual and therefore gradual pruning is much preferable. This is the result of direct experiments made in Scotland, that land of gardeners.

Dr Courtois, Editor of the Magasin d'Horticulture, an excellent French periodical published at Liege, says that in England the gardeners take off too much young wood in the summer from the apple and pear trees, which is apt to destroy the formation of flower buds, while in winter they shorten the wood too much, which makes the trees throw out over luxuriant shoots in the spring.

The peach and nectarine send out thick shoots which seldom bear fruit, the thin branches of one year old are generally appropriated to this service, but these thick ones should only be shortened to about one third, as they produce the thin fruit-bearing wood. In England where the peach is generally grown against walls, one of the essential requisites of a good gardener is to be able to train and prune this tree with judgment and knowledge; here it is almost always a standard, and is seldom touched by the knife,—the spring pruning there, is nearly entirely devoted to shortening the fruit bearing branches as soon as the blossom buds are evident, and Harrison, one of the most experienced cultivators, is in the habit of leaving these branches very short. I do not think this practice will meet with many imitators here, but am certainly of opinion that if these shoots were tipped with the knife, always leaving a leaf bud above the blossom bud, it would be advantageous. Many peach trees are allowed to grow with tall straggling trunks, thereby exposing not only the fruit but also the tree itself to be destroyed by high winds; this may be avoided by heading down while young, thus forming a low bushy plant, which may be always kept so, and in this state if there happen to be accidental protection of high ground or forest tree, it is more effectual than when the head of the tree is elevated on an unsightly trunk.

The apricot bears fruit also upon spurs arising from two or three year old wood, these should therefore be carefully preserved, unless when too thick and on old trees; they may then be thinned out; but the apricot is more liable to be injured by pruning large branches than the peach; these are however not produced in such profusion on the apricot.

As this paper is intended to encourage a more universal use of the knife, rather than as a scientific treatise on pruning, the following observations will be more diffuse and general; reminding the reader that a sharp knife and a clean cut are absolute requisites in gardening, and that when the saw is used for large limbs the wound must be cut clean over.

The raspberry and most of its tribe should always be cut to about five feet high, it increases the quantity and size of the fruit, as well as encourages the growth of the suckers for the following year, it should however not be done until all chance of severe frost is over, yet before the buds shoot, the stems ought afterwards to be lightly tied together at the top or if crooked fastened to a stake, this gives the plantation a neat appearance and facilitates gathering the fruit.

The gooseberry and currant likewise require the knife occasionally, the first principally for shortening the long straggling shoots which recline on the earth, and for cutting out superfluous wood, — about four or five inches between the ends of the bearing branches is the proper distance — the currant for cutting out old wood and shortening shoots so as to expose the fruit sufficiently to ripen.

Nor is the knife less useful in the ornamental shrubbery; many an unsightly sticky old flowering shrub would throw out young, healthy and handsome shoots if the old wood was properly cut out. The beauty of many hedges is lost for want of cutting low, and the finest specimens of Magnolia glauca I have seen in the vicinity of Boston, have been produced by cutting down the tall plants brought from Gloucester their native spot; thus transforming them into handsome bushes. J. E. T.

[To be continued.]

ON THE VEGETABLE PRODUCTION OF INDIA RUBBER, AND ITS APPLICATION TO MANUFACTURES.

At the present time, when attention to this subject is so much awakened, we deem an account of it will be of some interest to our general readers, particularly as an entirely new and extraordinary use for it has been very recently discovered and patented in England.

The India Rubber in the state it is imported into this country, is the concrete juice of the Hevea caoutchouc, or guianensis, a Euphorbiaceous plant which abounds in South America; it is also produced

from the Apocyneous plants, as Urceola elastica, of Sumatra, Vahea Madagascariensis, Ficus elastica, of the East Indies; and from Artocarpeous ones, as Ficus indica, the Banyan tree also of the East Indies, Artocarpus incisa, the Bread fruit tree, from the West Indies, and from many trees in Africa. In fact, plants producing it grow in almost all countries in or near the tropics. The produce of these is sometimes equal to nearly two thirds the weight of the branch tapped, and when exhausted, but a few months' rest are required to replenish the vessels; the supply is therefore equal to almost any consumption, although no doubt exists that this will increase amazingly. A small quantity has been manufactured from the juice of a tree in the Glasgow botanic garden, and exposed to the public at an agricultural museum at Stirling in Scotland.

Mr Nuttall observes that the juice of the Milk weed, Asclepias Syriaca, which grows plentifully in the vicinity of Boston, as well as of that of the Apocynum is convertible into a substance resembling gum elastic.

A patent has been very recently granted in England for the manufacture of an essential oil or liquid, by distilling India Rubber at a given heat in close vessels made for that purpose; by redistillation it comes over pure and transparent. This oil has many singular characters. It is the lightest liquid known, being of less specific gravity than sulphuric ether, it is exceedingly volatile, yet the gas formed when it evaporates is the heaviest gas known, and may be poured out of one vessel into another like water, as was exhibited at a late lecture given on it, by Dr Faraday in London. The rapid evaporation of it, produces intense cold; one minute and a quarter was sufficient to reduce the thermometer from 60 Fahrenheit to 10° below zero, by covering the bulb with muslin and blowing on it with a bellows, while this liquid was dropped on it.

On removing the muslin at about 10 above zero, in another experiment, the bulb was observed to be covered with a concrete substance resembling snow, termed by Dr Faraday, Bicarburet of Hydrogen, supposed to have been previously discovered by M. Mitscherlich.

On mixing this produce of India Rubber with cocoanut oil, which is known to be always hard at the usual temperature of the atmosphere, in the proportion of one quarter of the former to three quarters of the latter, the cocoa nut oil is liquefied and gives a most brilliant flame.

Mr Beale has taken out a patent in England, for a new lamp to burn this mixture ; one of them was exhibited at the before-mentioned lecture, and surprised the audience by its peculiar brilliancy.

It mixes readily with oils used for painting, and evaporates so speedily that the paint dries within an hour after laying it on. As it is extremely cheap and does not in the least injure the most delicate colors, it is probable that it will be considerably used for this purpose.

One of its most important properties, however, is that of completely dissolving all the Gum resins, particularly Gum Copal, without the assistance of heat, therefore the varnish may be prepared without the usual danger from fire. It is also a perfect solvent in cold, of India rubber itself, and when this is laid on any substance in its liquid state, the oil evaporates and leaves the India rubber without the slightest alteration of its character, fixed on the material.

Messrs Enderby & Co. of Greenwich, near London, have established a manufactory of this substance on a large scale, and have sent an agent to South America for the purpose of procuring a constant supply — they have always about one hundred tons to operate on.

The principal object of their manufactory, is to saturate the fibres of the Phormium tenax or New Zealand flax, with this liquid previous to its being made into cables, thereby rendering it totally impervious to water, and protecting it altogether from the effects of damp and moisture.

It has been named Caoutchouchine from Caoutchouc, another name for India rubber — which it is supposed, if carefully managed on distillation, would give nearly weight for weight of this oil.

Being so recently discovered, its properties are of course by no means entirely developed, and much remains yet to be known on the subject. Dr Faraday's lecture is represented to have been most interesting — he exhibited the juice of the India rubber in its fresh state and explained how it deposited the article of commerce — he entered also into a chemical analysis of it, the repetition of which here would be trespassing too far on our horticultural readers.

J. E. T.

FOREIGN PUBLICATIONS.

In the notices of plants figured in the various foreign publications we intend merely to extract the description of such as we think will be interesting to our readers from their showy appearance or other marked qualities.

From the British Flower Garden, edited by D. Don.

Funckia lancifolia—named by Sprengel after H. C. Funck, a German apothecary and botanist.

Hexandria monogynia, and *hemerocallideæ*, introduced from Japan in 1834, by Mr Knight of Chelsea.

The Funckia cerulea is well known here as a hardy perennial, under the name of blue Hemerocallis — this differs sensibly from it both in the form of the leaves and the corolla, and in the raceme, having fewer flowers, but the common observer would probably not distinguish them.

Vicia polysperma, Diadelphia decandria and leguminosæ, very much resembling the common Vetch.

The drawing was taken from Mrs Marryat's* collection at Wimbledon, and was discovered by Professor Tenore, in the kingdom of Naples; a hardy perennial.

Lilium tenuifolium; narrow leaved turncap lily. Hexandria monogynia and liliaceæ, a beautiful and graceful scarlet flower, native of the vast plains of Siberia, the bulbs of which are eaten by the wandering Tartars; doubtfully hardy, as it is never found beyond the 55th degree of north latitude.

Dabœcia polifolia, octandria monogynia and ericaceæ. White flowered Irish heath — one of the Andromeda tribe.

Alstræmeria flos martini — the St Martin's flower of Chile.

Hexandria monogynia and amaryllideæ — also from Mrs Marryat's collection, an especial favorite with us. Scarcely any flower equals the beauty of the Alstræmeria and this is the handsomest of the tribe. We have seen fine healthy plants in Messrs Winship's and other greenhouses, and trust they will be exhibited this year at the Horticultural Society's room.

* Mrs Marryat is an American lady, living at Wimbledon, near London, and like many of her countrywomen, has a decided taste for floriculture, and possesses one of the finest collections of plants near the metropolis.

Nuttallia papaver, Monadelphia polyandria and malvaceæ, named by Dr T. Barton of Philadelphia, after the discoverer of the genus, Mr T. Nuttall of Cambridge, Mass. A rich lake-colored flower, resembling what is here generally called hibiscus — it was introduced into England in 1833, from seeds gathered by Mr Drummond near Covington, Louisiana.

Gilia achillæfolia, Pentandria monogynia and polemoniaceæ. The Gilia capitata is well known here as a hardy annual, this is of equally easy cultivation, the flowers are not so close together, but about four or five times the size and of a darker color than capitata — introduced by Mr Douglas, from California.

Gladiolus natalensis, natal cornflag, triandria monogynia and irideæ. Called G. pittacinus by Hooker in Botanic Magazine, and by Lindley in Botanical Register; a native of the Natal river, on the southeast coast of Caffraria; it is a large and magnificent species, and seems to be as hardy as G. Byzantinus.

Rhinopetalum Karelini, Kareline's rhinopetalum, hexandria monogynia and liliaceæ — a curious, pretty, small bulbous plant, from the deserts of Ural.

Rhododendron indicum, var. speciosum, Decandria monogynia and rhodoreæ. It is difficult to give an adequate idea of the splendor of this new seedling, raised at Combewood in 1830, from R. indicum and R. phœniceum. The blossoms appear only in pairs at the end of the branches, but it flowers very freely. The color is red, bright and showy, and the size three inches across each flower.

Two other paler varieties were also obtained from the same seed, one of which is semidouble.

From the Botanical Register, by John Lindley.

In this publication are three splendid and curious orchideous plants, Cycnoches Loddigesii from the woods of Surinam, Grobya Amherstii from Brazil, and with a strong vanilla fragrance, and Monachanthus discolor, one of the plants sent from Demerara by Mr Colley.

Calceolaria angustiflora, Diandria monogynia and scrophularinæ, narrow flowered Calceolaria from the Valley of Canta, in Peru.

The learned editor in his description of this plant, indulges in a vehement philippic against hybridizers in general, who he observes have converted some of the fairest races in the vegetable world into forms in no case more beautiful than the original, and in the majority of instances unhealthy, mongrel and debased.

Indigofera atropurpurea, purple flowered Indigo plant.

Diadelphia decandria and leguminosæ, a handsome stove plant, native of the hot valleys in Nepal.

Tritoma Burchellii, Hexandria monogynia and Asphodeleæ, a beautiful bulbous flower from the Cape of Good Hope, which has proved quite hardy in England, but is doubtful whether it would bear the severe frosts of this climate.

Zephyranthes spofforthiana, Hexandria monogynia and Amaryllideæ, an elegant liliaceous hybrid plant, raised by the Hon. and Rev. W. Herbert, between Z. tubispatha and Z. carnata; it can only be preserved in the greenhouse.

Gardoquia Hookeri, Didynamia gymnospermia and labiatæ, rather pretty half shrubby plant from Florida, named after Don Diego Gardoqui, minister of finance under Charles IV. of Spain, who favored the expedition of Ruiz and Pavon to South America.

Lithospermum rosmarinifolium, rosemary leaved Gromwell, Pentandria monogynia and borragineæ, a pretty blue flower from the island of Capri in the southern part of Italy, also from Mrs Marryat's collection.

Chelone centranthifolia, Didynamia gymnospermia and scrophularinæ, resembles the well known Chelone barbata from California.

Campanula fragilis, Pentandria monogynia and campanulaceæ, a very pretty low growing species with large open blue flowers, also from the island of Capri, where it grows in very dense tufts, hanging down the face of the limestone rocks; from Mrs Marryat's collection.

Brugmansia bicolor, Pentandria monogynia and solaneæ, introduced from Guayaquil in 1833 by Charles Crawley, Esq. The Brugmansia arborea is known in this country as a most splendid plant with white flowers. In page 110 of our present work will be found a description of one species seventeen feet high, with six hundred flowers expanded at once; the Bicolor above named has its blossoms either of a bright orange yellow or a deep orange red, which must make a magnificent appearance; it is a hardy greenhouse plant, only requiring protection during the winter, and flourishing most when planted in the open ground, as the roots are large and require much moisture. In the temple of the sun, in the city of Sogamorza there is a famous oracle, the priests of which inspired themselves by chewing the intoxicating seeds of this plant, just as the Pythoness at Delphi received the influence of her god by chewing laurel leaves, and inhaling a gaseous vapor. From the fruit itself the Columbians prepare a drink called Tonga, which when weak is merely soporific, but drank

in strong doses produces frenzy, which can only be removed by immediate draughts of cold water.

Sempervivum urbicum, city house leek.

Dodecandria hexagynia and Crassulaceæ sempervivæ: this is the handsomest of the shrubby species of this genus, the Sempervivum arboreum is well known in the green-houses in this vicinity, the Urbicum is from the Canary Islands. These plants are so tenacious of life that they have obtained their name from the two Latin words semper and vivum, signifying to live for ever.

Dracæna terminalis, Sandwich Island Tea plant.

Hexandria monogynia and Asphodeleæ, a graceful stove plant common in the South Sea Islands, where the natives use the root for food when baked, and also when mixed with water and fermented as an intoxicating drink. Some American Captains who visited these Islands, made beer of it, being an excellent antiscorbutic. The branch is an emblem of peace among the natives, and the leaves are woven into cloaks and serve likewise to thatch their houses.

Berberis dealbata, the Whitened Barberry.

Hexandria monogynia and Berberideæ, an evergreen shrub from Mexico, called Whitened from the underside of the leaf being very white from the discoloration of the skin. The clusters of flowers are very thick, nodding, the leaves roundish and spinous.

Lælia anceps, a magnificent orchideous plant from Mexico.

Monachanthus viridis, a curious orchideous plant from Brazil.

Arbutus procera, tall strawberry tree.

Decandria monogynia, a pretty shrub from the North West Coast, Brassia lanceana, another curious orchideous plant from Surinam and the Brazils, with a most exquisite fragrance.

Rhodochiton volubile, Twining Red Cloak.

Didynamia angiospermia and scrophularine; this beautiful climber has been already noticed at page 75 of our present volume, but as it is likely to become a great favorite, we make the following useful extracts.

There can be no doubt that it is, of all the known climbing plants with which we cover our walls, the most remarkable and beautiful, and ought to be particularly recommended as it is easily cultivated and flowers so freely. The seeds are sown in March and April, (in the hot bed) that the young plants may become strong enough in time for planting in the open ground, where they remain during the whole summer; if these plants are to be preserved, they should be potted

off, and put in a conservatory, where they prosper in a temperature from 43° to 48° Fahrenheit.

This management is followed in the Berlin Garden in Germany, where it was observed in the Autumn of 1833 in a more thriving state than those in England. Its greatest enemy seems to be the bright sunlight.

From the Botanical Magazine, by J. Hooker.

Of the figures in the monthly publication for March and April, seven are orchideous house plants, which although exceedingly curious in their structure and forms, are difficult both to procure and to cultivate, and therefore in the present state of horticulture in this country, are not of sufficient interest for us to devote much space in describing. Of the remainder *Eurycles cunninghamii*, Hexandria monomygnia and amaryllideæ, appears to us most attractive, it is a greenhouse plant and was formerly called *Pancratium amboinense*, from which section it was separated by Mr Salisbury on account of the cells of the ovarum containing two seeds, and the tube of the corona being divided nearly to the base, into six almost distinct segments.

Loudon's Gardener's Magazine for April, contains a pretty plan for a garden of one quarter of an acre extent, with the shrubs and trees necessary to ornament it, but being accompanied by two large wood cuts, the plan cannot be given here.

There is a long and favorable notice of the Fruit Cultivator, a new work by Mr Rogers, from which we make the following extracts:

"Speaking of soils suitable for fruit trees, the author observes."—

'Deep rich soils, in sheltered situations, are not the most proper for the apple, though such have been most erroneously recommended by writers who ought to have known better. For it is often seen that apple trees succeed well in any kind of loam, though it be not more than one foot in depth, so as the bottom is sound and dry: the roots take an extensive horizontal range, the young wood is always of more moderate growth, and better ripened than where roots strike deep into the ground.'

'The Golden pippin being one of our most useful and esteemed hardy fruits, the author trusts he will be forgiven for entering more at large into its history and management than he has thought necessary in the preceding notices of other inferior kinds of apples, especially as there has been, for several years past, an idea prevalent, that this country was about to lose this fine fruit forever. In Mr Knight's

Treatise on Orchard Fruit, the doctrine was first broached, that all our varieties and sub-varieties of fruits have but a temporary existence. They are raised from seed, to flourish for an uncertain number of years, and, after arriving at their maximum of health and fertility, gradually sink to decay, and at length disappear. Taking this idea as a rule, the Golden pippin was judged to be in this last stage of existence; and it was predicted, that not only were the old full-grown trees to disappear, but all the young ones, lately worked from them, would perish also. It must be admitted, that a great majority of the old Golden pippin trees in Herefordshire, and in other parts of the kingdom, were, about the time Mr Knight wrote his treatise, in an apparent state of decay; and, moreover, that young trees of the same sort could but with difficulty be made to grow and bear so freely as they had previously done. These failures, however, were accounted for in another way than that propounded by Mr Knight. It was observed, that the old trees, having probably all been planted about the same time, and having arrived at their natural period of healthy existence, were like all other trees, falling to decay from sheer old age; and that the contemporaneous weakness and debility of the young lately planted trees were caused by a careless choice of grafts, by working them on improper stocks, and planting them in old worn out soil, instead of in fresh, well-trenched, light, loamy situations. This latter opinion was the more feasible, because there were many middle aged trees in different parts of the kingdom, which were in full vigor and bearing; and though young plants planted in old gardens and orchards were unthrifty, such as were properly planted in newly broken-up ground, provided they were worked on the best crab stocks, succeeded as well as ever.

'This being the opinion of the author respecting the failure of the old Golden pippin, and all other sorts of apples, he gave the subject his best consideration, and set about proving how far his own conjectures were well or ill founded; and, after the experience of forty years, he has come to the following conclusion; viz., that if crab stocks be raised from the most healthy wild trees, properly treated, and planted out in the nursery, and worked with the most healthy moderate-sized scions, cut from the top of sound healthy trees, and, when fit for final transplantation, be placed on well-trenched light fresh loam, having a dry bottom of rock or chalk, the trees will assuredly prosper without fear of disappointment. On the other hand, if the graft be taken indiscriminately from any tree, or from any part of a

tree, and placed either on free or paradise stocks, the young trees so raised will, nine times out of twelve, be in some respect or other defective; and particularly if they be not afterwards planted in their favorite soil, where their wood would not be sufficiently ripened.

'The Golden pippin requires a dry and moderately warm climate. The best fruit are produced in Normandy on the Continent, in Sussex in England, and on walls in Scotland. The south of France is too warm, and the richer counties of England and Ireland are too moist. This apple is supposed to have been first raised at Parham Park, on the South Downs of Sussex.

'It has been noticed of late years, that neither the Golden pippin nor Nonpareil keep so well as formerly. The author well remembers, that, sixty years ago, both these kinds of apples were plentiful in May; but it is not so at present. This is attributed to two causes; our summers lately being more moist, and perhaps too many free and paradise stocks used in their nurseries. It has been deemed a good practice to raise the Golden pippin from cuttings or layers. This plan is quite practicable; and some practitioners have been very successful in raising plans from cuttings, intended for potting. Trees may also be raised by layers from stools kept on purpose in the nursery.'

"The White Muscadine grape, which the author (p. 221,) considers as the Chasselas musqué of the French, appears to be rather their Chasselas de Fontainebleau. The berries of the latter are clear, while those of the former are tinged with yellow.

'Millet's mignonne peach forces well in pots or boxes. Mr Brown, gardener to the late Lord Cremorne, at Chelsea, kept all his trees in tubs or boxes, like orange trees, for years, and supported them chiefly by the use of liquid manure. This was composed of soft water, horse droppings, and a little soot. The sort Mr Brown considered best for growing and forcing in this manner were, the French mignonne, Violette hatif, Early admirable, Millet's mignonne; and, for later fruit, the Bellegarde.' (p. 279.)

'Of the Scotch pear, the Winter Achan, Mr Rogers observes that the fruit does not arrive at so great a perfection in the south of England as it does in Scotland. (p. 321.) However paradoxical this may seem, experienced gardeners know it to be a fact. The skin of this fruit is smooth, of a dull brown color, covered with gray dots. The pulp is melting, juicy, and of a good flavor.'

"In speaking of the walnut, we are told,—

'The nuts should not be gathered till the outer covering parts rea-

dily from the shell, which is before the former becomes mealy. There is a critical time at which the covering leaves the shell without staining it, which they are apt to do if allowed to become soft. When shelled, they should be well dried in the sun for a day or two, and then stored away, either on shelves in an airy room, or packed in jars or boxes, among dry white sand, which improves the color of the shell, and keeps the kernel more moist.

'A decoction of walnut leaves is sometimes useful in gardens; it kills earth worms: and if gooseberry trees are sprinkled with this liquor soon after the leaves are expanded, it defends them from the caterpillars.'

'*The Economy of the little gray Moth (Yponomeùta padélla.)*—No insect makes greater havoc of our white thorn hedges and apple trees [and various other trees,] than the little gray moth (Yponomeùta padélla *Latreille.)* Wherever the caterpillars of this insect seat themselves, they appear to be congregated in vast numbers: every spray is covered. The leaves vanish before them; so that by midsummer, not only single trees, but whole orchards, and entire hedges from end to end, are completely defoliated. Their depredations cease when their change into chrysalis [pupa] states take place, leaving the trees covered with the webs (or rather, silky threads,) by which they transport [the caterpillars had transported] themselves from place to place; and every leaf shrivelled, as if scorched by fire. —*J. Maine*, ix. 570, 571.

"These effects are familiarly known to many, but not so, or less so, have hitherto been the following points in the insect's economy: the time and place in which the mother moth deposits her eggs, the time at which the caterpillars are hatched from the eggs, and their course of feeding from the time of being hatched to the time at which the effects of their ravages command our observation of them. These points have been elucidated by the investigations of the late Mr E. W. Lewis, and by his brother, Mr R. H. Lewis from a communication on this subject by the latter gentleman, published in the *Transactions of the Entomological Society of London*, we quote the following particulars: —'The mother moth deposits her eggs in the preceding year, generally on the same twigs, and chiefly on their under surface, in a circular patch about one and a half line in diameter, which she covers over with a strong gluten, at first of a pale yellow, but which is afterwards, by the action of the atmosphere

and rain, changed to a dark brown, very closely resembling the bark of the tree, and is then very difficult to be distinguished from it. The eggs hatch early in the autumn (the exact time I did not ascertain : I found them hatched the beginning of October,) and the larvæ remain in confinement during the whole winter, under the covering which is formed by the gluten and egg-shells. If we now raise up one of these excrescences, we shall find it hollow inside, and containing two dozen or more larvæ, of a pale yellow color, with the head and a corneous plate on the first segment black, and about a half or two thirds of a line long. In these receptacles they increase somewhat in size : the bark of the tree beneath is moist and green, but whether, or in what manner, they derive nourishment from it I am at a loss to say.

'About the time that the trees are coming into leaf they make their escape : but they do not now commence spinning webs ; they cannot yet eat the epidermis of the leaves, and they require some protection from the cold and rain, which their tender frames are not yet fitted to endure ; to effect which they *mine* into the leaves, eating the parenchyma [cellular tissue] only, and leaving the epidermis untouched.

'Having acquired sufficient strength to withstand the vicissitudes of the atmosphere, and to devour the epidermis of the leaves, they make their way out ; and the anxious gardener, who has hitherto only observed the brownness of the leaves, caused by the mining, but which is by him attributed to the withering blast of an easterly wind, is astounded when he perceives myriads of caterpillars swarming on the trees, and proceeding with alarming rapidity in their devastating course. The fact of their mining sufficiently explains the reason of their sudden appearance : it shows how one day not a single caterpillar may be visible on the trees, and the next they may be swarming with larvæ of so large a size as to rebut the idea of their having been recently hatched.' Besides, their latter habit of feeding on the leaves externally is so little like their former one of feeding on them internally, that any one who had not satisfied himself by examination that both habits are proper to the same caterpillars would scarcely suppose this to be the case. While the caterpillars are within the leaves, they are 'of a yellowish color, though they become darker at each change of skin. It is in this state that I would recommend their destruction, by gathering and burning every leaf which by its outward appearance betrays the internal ravages. Their nests are so difficult to discover, that searching for them seems entirely out of the question, and I am

much afraid that, could any wash be conveniently applied to the small twigs, whatever might be sufficiently powerful to penetrate the glutinous covering would at the same time injure the tree.

'The future proceedings of the insects, while they cover the trees with their webs, have been so well described by others, and are altogether so well known, as to need no description here.

'Having satiated themselves with the growing hopes of the gardener, who endeavors but in vain, to stop their destructive career, they prepare for the pupa state by spinning strong white cocoons of an ellipsoidal form. In a short time they emerge from their pupæ, and may be seen in the evening, but more particularly in the early morning, flying by hundreds round those devoted trees which are, in the following year, to be the scene of similar ravages, unless circumstances for which we cannot account should prevent their multiplication.' "

On Acclimating Plants in England.

"*Australian Trees at Coed Ithil, near Chepstow*, the residence of Capt. R. H. Fleming, R. N.—The blue gum (Eucalyptus) stands frost as well, or indeed, rather better, than the common laurel. It has been planted three years, having at planting a stem about the thickness of a tobacco-pipe, and about two and a half feet high. It is now more than sixteen feet high, and the stem is thicker than a stout man's arm. Notwithstanding the late sharp frosts the tree retains its strong and peculiar fragrance, and the whole of the foliage is as perfect as it was during summer. The long-leaved wattle (Acacia sp.?) thrive equally well; as does also the bugwood (Acacia verticillata), of which I have three specimens which resemble trees of furze, and are remarkably hardy and beautiful. I have a number of other Australian trees and shrubs here, of which I expect soon to send you the particulars. During the late frosts I heaped sheet ice round the roots of all the trees, so as to touch their barks, but they were not at all injured by this ordeal.—*R. H. Fleming. Coed Ithil, Jan.* 15, 1835.

"*Australian Trees in Mackie's Nursery, Norwich.*—There is a tree of Acacia dealbata, or affinis, 15 ft. high, 5 in. in diameter at 1 ft. from the ground, and with branches covering a space 12 ft. in diameter. Its shape is pyramidal, and its bark smooth and of a greenish gray color, though when old, it becomes rough like that of the oak. It grows in a light loam, with a sandy subsoil, and in a northeast exposure. It has stood out here unprotected four winters without

receiving the least injury from frost, and is now a very handsome specimen, completely covered with flower buds, which expand the beginning of April. It ripened a little seed last year. I have tried many other species of acacias in the open air, but I have found none so hardy as this. The name I received with it from Van Diemen's Land was 'black wattle mimosa.'—*F. Mackie, Nov.* 28, 1834.

"It is stated in an Australian newspaper, that the Acacia melanoxylon and the Prostanthera also stand the open air at Norwich. The white gum (Eucalyptus resinifera), the most tender species of Eucalyptus in Van Diemen's Land, though killed to the ground as a standard, it is said to thrive against a wall when protected during winter by a mat. We should be glad to have some particulars of these and of other Australian trees which have been tried in the open air in different parts of England. — *Cond.*

"*Sida pulchella*, which produces its clusters of beautiful white blossoms in the gullies about Sunday Bay, and at the foot of Mount Wellington, in the neigborhood of Hobart Town, in the depth of winter, there can be no doubt, would stand the open air quite well in England. A very beautiful species of this genus, which had stood the winter at Redleaf, in Kent, in the garden of W. Wells, Esq., was exhibited at the London Horticultural Society, Feb. 17, 1835." (*See report of the Hort. Soc.*

FORCING THE PEACH.

Messrs Editors — In the third number of your interesting Register, page 98, I find a description of a house for forcing the cherry, a front wall is there recommended "two feet above the level surface of the ground" — "*on* the front wall upright sashes of two and a half or three feet in height may be placed" — that is, the wall and sashes will make the total height of the front side four and a half or five feet high — Is it so?

My object, however, at present is to beg the favor of some of your experienced gardeners to give the best and most economical plan for a peach house, and if accompanied with a cut and very minute descriptions, it would be still more valuable. Also the best method of managing peach trees in such situations. In my country we can raise cherries very well — but the peach does not always ripen so perfectly, as in situations a little further south. Yours, &c.,

A Down Easter.

[For the Horticultural Register.]

HORTICULTURAL AND SCIENTIFIC NOTICES.

The effects of the past winter, (unparalleled in severity) on exotic trees and plants in different sections of the United States, is worthy of attention, and we should be pleased to hear in what districts and exposures half-hardy plants have best escaped the intensity of the past season. The crop of peaches as far as we can learn in the State of New York is mostly destroyed, and in many cases the older and more enfeebled trees themselves have perished by the severe cold. It is remarkable that the almond and apricot, which are generally believed more tender than the peach, have survived the winter better, and in most cases have put forth a fine show of blossoms, whilst the peaches by their side are totally destitute of a vestige of bloom. On looking over the garden, we are surprised to observe the fine appearance of some plants, formerly supposed quite tender, but which it is now incontestably proved, in good situations are perfectly hardy. Among these may be mentioned the Tree-Pæony *(P. moutan)*, the *Sophora japonica*, and the Chinese purple Magnolia. Whilst the common Laburnum, generally quite hardy, has been killed in many instances, to within a foot of the ground, the above plants have retained their vitality without a particle of covering. *Tamarix gallica*, *Lonicera flexuosa* and the Corchorus or *Kerria japonica*, have in many specimens shared the same fate as the laburnum, and are now shooting up vigorously, from the lower part of the stems. It is gratifying to observe the perfect hardiness of the Chinese *Ailanthus*, and drawing our inferences from the past winter, this fine and stately ornamental tree will thrive in any part of the Canadas.

The past season has not only been remarkable for an unprecedented low range of the thermometer, but the present spring has been and is still unusually backward. This may be seen by a comparison with the four preceding years, selecting three plants in each month as a horticultural index of the forwardness of vegetation.

		1831.	1832.	1833.	1834.
Yellow Crocus — in bloom	March	14	12	22	2
Daphne mezereum and Spanish Filbert,		27	29	25	12
Common Liverleaf *Hepatica triloba*,	April	2	10	5	2

		1831.	1832.	1833.	1834.
Fragrant violet *Viola odorata,*	April	8	14	6	4
Shad bush *Aronia botryapium,*		17	26	15	16
Single White Narcissus *Narcissus poeticus,*	May	10	11	5	6
Garden Tulips,		13	17	12	18
Blue Columbine *Aquilegia vulgaris,*		23	31		26

The present year, 1835, the yellow Crocus, generally in bloom from the last of February to the 14th March, was not in flower until the first of April; the Mezereon the 6th, and the Viola odorata the 17th, and the *Aronia* not until the 1st of May. Even now, May 18th, the single white Narcissus is scarcely in bloom, and the blossoms are but just falling from the fruit trees, which are generally in full expansion by the middle of April. Altogether, the last six months have exhibited a temperature more in accordance with the latitude of Quebec, than that of New York, or the middle sections of the United States.

A new work on the Grasses of North America. "The Gramineæ and Cyperaceæ, of North America, by Asa Gray, M. D., New York." Parts I. and II. of this excellent work, each containing specimens of one hundred different species of the grape, &c. preserved in the finest manner are already published by Dr Gray. The work consists of authentic dried specimens of the *plants themselves*, with the most approved generic and specific names, authorities and copious synonymes. To the American botanist this work will be peculiarly acceptable, as illustrating a comparatively neglected branch of Phenogamous Botany, and as offering specimens and descriptions of some new and interesting species; whilst the horticulturist, who is not acquainted with the minutiæ of botanical science, may find it a useful work of reference in the determination of the various species of grasses which improved cultivation is introducing to his notice, or which may be worth his attention among our indigenous gramineous plants.

The cultivation of aquatic plants is doubtless a refinement in Horticulture. The difficulty of commanding a sufficient supply of water in gardens at a moderate expense, is certainly one of the most weighty objections, to the more general growth of this beautiful group of plants. But in hundreds of situations, scattered over our country, the limpid stream and winding rivulet, might easily be formed into

fine expanses of water; the surfaces of which would become perfect pictures of beauty, when clothed and bordered with choice aquatics, and water loving plants. Many of the most beautiful in the world, are natives of our own crystal lakes and water courses. The white Water Lily that

"Sculpture like and stately River Queen,"

not surpassed either in beauty or fragrance by any other plant, would be one of the most delightful ornaments of the aquarium. The *Sagittarias* and the *Pontederias*, with their silvery and azure blossoms, would make a charming display, intermingled with the golden hooded *Utricularias*, and the white blossoms of the *Menyanthes*. *Hottonia* or the water violet, and the *Villarsia lacunosa*, though more rare, might easily be procured to give additional variety to the collection — while the margin of the pond, or aquarium might be decorated with the elegant *Cypripedium spectabile*, the exquisite blue of the Fringed Gentian (*G. crinita*,) and the rich crimson of the cardinal flower, (*Lobelia cardinalis*.) *Saracenia purpurea*, so strikingly singular, both in leaf and flower, *Parnassia*, *Orontium*, and the smaller *Gerardias* with their delicate purple corollas, would also suggest themselves to the lover of aquatic plants. At the head of the catalogue of American water plants, we should perhaps place the magnificent Sacred Bean (*Nelumbium luteum*,) a native of Lake Ontario, the creeks in the neighborhood of Philadelphia, and the waters of the western States. Its immense leaves, nearly the size of a parasol, and its stately blossoms, a foot or more in circumference, make it a spendid object, floating upon the still surface of the waters and crowning their azure depths with its gorgeous yellow flowers. It is also asserted that the beautiful *Amaryllis longifolia* will survive the winter, and flower finely if planted in a pond, below the reach of frost, (we have ourselves tested that the well known Calla, or Ethiopian Lily is sufficently hardy for this purpose.) Other interesting and beautiful European aquatics, as the *Butomus umbellatus*, *Villarsia nymphioides*, and many others might be worth introduction for their beauty and rarity.

A. J. Downing.

Botanic Garden and Nursery,
Newburgh, N. Y. May 18, 1835.

HORTICULTURAL ARCHITECTURE.

[Continued.]

The garden behind the house may if large be composed of three parts.

1st. A grass lawn.

2d. Separate beds for distinct flowers.

3d. A boundary of ornamental shrubs.

And if, as mentioned in the preceding communication, there is water, also of an aquarium for water plants and an artificial swamp for those to which such a situation is most congenial.

The lawn may be formed either by sowing seed, in which case the small short leaved species are the best, as sheep or fescue grass — this will take, however, two or three years to bring into fine order — therefore the quickest way is to pare turf from a meadow and lay it down evenly, the pieces close to each other; they will soon join and form a continuous surface. The great beauty of this ornament to the garden consists in having it soft to tread on, and a beautiful bright green color; this can always be effected by mowing frequently, at least once every three weeks during the season of growth — in a very few years by this operation the roots become so close and thick that the rays of the sun will scarcely have power to turn it brown; while the earliest spring warmth will cause the young green shoots to overtop the short blades killed by the severe frosts of this climate, and soon exhibit a pleasant green contrast to the surrounding dull objects. After each mowing the lawn must be neatly swept, and then rolled with a roller of iron, preferable to one of stone. The edges of the walk should be kept trimmed so as to present a clean unbroken line. Such a lawn is improved by occasionally sowing a little dwarf Dutch clover, and if to be obtained a little Chamomile anthemis — this latter when pressed beneath the foot exhales a most delicious perfume, is thick, soft, and velvety to the tread, the color a darker and more beautiful green than the grass — it spreads and thickens by the constant use of the scythe. A lawn kept in this style is certainly always an object of delight to the eye, and preferable to the finest carpet for the foot — but if not neatly kept it had better be omitted altogether from the garden. The form of lawns must depend on the extent, the surface, or on individual taste; a few short and simple rules for general forms will be given in a future part of these papers.

If extensive, the lawn may be diversified by clumps of ornamental trees or if the space be small by single trees, as Magnolia, Liriodendron,

weeping Ash, &c. The Shepherdia would be an excellent plant for this purpose, or the Sumac with crimson berries, also the mountain Ash, deciduous Cypress (Cypressus disticha), purple Beech; if smaller still, the lofty shrubs would be sufficient, such as tree roses, scarlet thorn, Dutch weeping Laburnum, Philadelphus grandiflorus, Rhus cotinus (smoke plant), great flowering Syringa, Magnolia glauca, and various others too numerous to mention.

Beneath the spreading shade of these clumps of elegant foliage, the green painted rustic seat would not be in bad taste; the "*sub tegmine fagi*" of Virgil is well suited to the warm months of this climate,—unhappy poet! he knew nothing of the additional solace of the cigar on these occasions.

The separate beds for distinct flowers may be formed behind the turnings of the walk so as to come upon them unexpectedly; for instance, at a bend the eye may fall suddenly on a bed eight or ten feet long of scarlet turban Ranunculus, and from thence pass on to others containing mixed Ranuculus and mixed Anemone, — one for tulips, another for pinks, a bed of peat filled with Gentiana acaulis — if the experiment making this year prove it able to be cultivated here—makes a most magnificent shew. The Italian jonquil also forms an elegant and fragrant group. The Rosarium or bed for roses should be managed with some taste, that is, by placing the dark velvet Tuscan in close contrast to the celestial blush, and the blush hundred leaf near the white Provence or rose unique; the light colored cluster rose would be agreeably compared with the dark sanguinea — the Scotch roses may be interspersed. If the climbers, such as the Boursault rose and others, could form an entrance to this rosarium through an arched trellis, such as is often seen here devoted to vines, the effect would be delightful. Another new method of using the climbing roses has been practised in some gardens in England — instead of training them upwards, the long shoots are pegged down near each other close to the ground, the colors being properly blended in straight lines — the appearance which results from this arrangement is a complete green carpet of the leaves, the flowers appearing as a kind of pattern on the surface. Iris xiphium, a very cheap bulb in Holland, forms a beautiful and most amusing group; this plant is very apt to sport, that is, vary in the disposition of its colors.

The choice of ornamental shrubs is very easy, the catalogues of Messrs Winship, Kenrick, &c., near Boston, of Messrs Prince near New York, and of several in the vicinity of Philadelphia offer ample varieties. If the shrubbery constitute the boundary of the

premises it would be well to raise the earth at the back about two or three feet higher than the front — at every twenty feet a tree may be planted, such as Catalpa syringifolia, Laburnum, Liriodendron, (tulip tree), Larch, silver leaved Sycamore, purple Beech, Ailanthus, Eleagnus, Moose wood, &c. Between these trees place the lofty shrubs, as red and white lilac, dog wood, syringa, smoke tree (Rhus cotinus), snow ball tree and many others; below these place smaller shrubs as Symphoria racemosa, various spireas, particularly spirea bella sorbifolia, lævigata, Rhodora canadensis, swamp honey suckle, (azalea), altheas, mezereon, corchorus, calycanthus, Amorpha fruticosa, Potentilla fruticosa, Tartarean honey suckle, and the common Dutch honey suckle, which if kept low by the knife will be bushy and almost always in flower: in front of these may be placed the low herbaceous flowering plants as, pæonies, red, white and blush, pinks, hemerocallis, low Phloxes, convallaria majalis (lily of the valley), and others by far to numerous to mention. In planting such a shrubbery great attention must be paid not to crowd the plants too much, as in a few years they will much impede each other's growth and altogether destroy the beauty. When originally placed in the holes destined for each plant great care should be observed to turn the best side of a shrub in front and leave the worst side out of sight; it is astonishing what a difference a little attention on this point makes even in the first year's growth. The best finish for the border of such a shrubbery is a verge of fine grass not less than eight inches in width, which must be kept frequently mown and neatly edged. At intervals of ten or fifteen feet a tree rose of about five or six feet high is extremely ornamental. If the shrubbery cross the end of the flower garden, with the view of concealing the vegetable garden, then trees are not requisite, but simply low shrubs. Three or four years will probably elapse before the shrubbery will be sufficiently thick for the purpose intended; in the mean time the large gaps between the shrubs which would otherwise have a naked appearance, may be filled with lofty herbaceous and biennial flowers; I know of none more appropriate or beautiful than the red and white foxglove, Solomon's seal, (Convallaria racemosa, multiflora, latifolia,) Aster, Novæ angliæ and others, Cimicifuga, Helianthus multiflorus, the late phloxes, &c. always supposing these not to be allowed to spread so far as to injure the shrubs. One other point is necessary to mention on which much of the health of the plantation depends; it must be kept free from weeds and fungus.

J. E. T.

[To be continued.]

[From the Library of Useful Knowledge for April.]

FLORA'S TIME KEEPER.

For the amusement of those who are interested in such matters, we subjoin a *Clock of Flora*, — that is, the hour of expansion of various flowers, as it is recorded by Linnæus for Upsal, and by De Candolle for Paris: —

Name of Plant.	*Upsal.*	*Paris.*
Convolvulus nil and sepium		3-4 A. M.
Tragopogon pratense	3-5 A. M.	4-5 A. M.
Other Cichoraceous plants	4-5 do.	do.
Matricaria suaveolens		do.
Crepis tectorum	4-5 A. M.	
Papaver nudicaule	5 A. M	5. A. M.
Moist Cichoraceæ		do.
Momordica elaterium		5-6 A. M.
Lapsana communis and many Cichoraceous plants	5-6 A. M.	do.
Convolvulus tricolor		do.
Hypochæris maculata	6. A M.	6 A. M.
Solanum, several species		do.
Convolvulus Siculus		do.
Sonchus, different species	6-7 A. M.	6-7 A. M.
Hieracium, do.	6-7 A. M.	6-7 A. M.
Nuphar and Nymphæa	7	7 A. M.
Lactuca sativa		do.
Camelina sativa		do.
Prenanthes muralis		do.
Mesembryanthemum barbatum		7-8 A. M.
Specularia speculum		do.
Cucumis anguria		do.
Calendula pluvialis	7 A. M.	do.
Anagallis arvensis	8	8 A. M.
Dianthus prolifer	8	
Nolana prostrata		8-9
Hieracium chondrilloides	9	
Calendula arvensis	9	
Mesembryanthemum barbatum, &c.	7-8	
Mesembryanthemum crystallinum	9-10	9-10
Arenaria	9-10	
Mesembryanthemum nodiflorum	10-11	10-11

Name of Plant.	*Upsal.*	*Paris.*
Portulaca sativa	10-11	11
Ornithogalum umbellatum (called on that account Dame d'onze heures)		11
Tigridia pavonia		do.
Most Ficoideous plants		12
Scilla pomeridinia		2 P. M.
Silene noctiflora	9-10	5-6
Mirabilis jalapa	5	6-7
Pelargonium triste	6	
Cereus grandiflorus	9-10	7-8
Mesembryanthemum noctiflorum		do.
Œnothera tetraptera		do.
——— suaveolens		do.
Convolvulus purpureus		10 P. M.

SALISBURIA ADIANTIFOLIA — (ADIANTUM LEAVED SALISBURIA.)

THE city with highly credible liberality, has removed the tree mentioned in our last number, as growing on the estate of the late Gardiner Green, Esq., to Boston Common, where a little diversity of foliage is certainly wanting to complete the beauty of the spot.

From the care and judgment with which it was removed we anticipate that it will live, although a year or two may elapse before it will regain its pristine vigor.

By reference to several works, particularly to the Arboretum Britannicum, a work now in publication by the indefatigable Loudon, it appears that this plant was first introduced into Europe in the early part of last century. The largest plant in England was supposed to be one of the first introduced, and was planted in a nursery garden at Mile End near London, by James Gordon the proprietor, it is now in possession of Mr James Thompson.

This tree measures fiftyfive feet in height, and at one foot from the ground is five feet five inches in circumference, and is consequently a few years older than the specimen above named.

J. E. T.

HINTS TO AMATEUR GARDENERS.

Those who grow early cucumbers, or are forcing asparagus, mushrooms, grapes, &c., or have pet collections of store or green-house plants, must not depend on the promising state of the weather, when unusually mild early in the season, but take the same precautions in covering up and uncovering their houses and frames until February is gone. In pruning wall trees, leave all the wood of the last summer's growth, except the thick unsightly shoots, which never bear, but draw the sap away from the small blooming wood; in shortening back some of the shoots to produce a succession of young wood, always leave one bud or more of last year's growth. This rule holds good as regards peaches, nectarines, and Morello cherries. Other fruits generally produce fruit on spurs, formed on the two (or more than two) years old wood; but to keep a succession of healthy bearing wood, it is requisite to shorten back, from time to time, to the heart of the tree. The shoots proceeding from such pruning, to be carefully laid in, to replace the old or cankered branches. The test of judicious pruning is, to have your trees covered with fruit on every branch, and not in some moderate sized gardens merely at the extremities. If you have an old grape vine, even to the top of the house, that produces small fruit, cut it down to within a foot or two of the ground. It will produce fine shoots the following season, (I have seen such forty feet in length the first year;) these should be trained up the house, or wall, four or five feet apart, parallel to each other. Shorten them back to the strongest bud that breaks the following spring, and every other eye will produce right and left lateral shoots; those latter produce the fruit. In the first of mid-summer pruning those lateral shoots are each to be shortened back, so as nearly to meet midway; the lateral from the corresponding main shoot of last last year. Every winter pruning the whole of those laterals must be cut back to one strong bud, or eye, of the same year's growth, from which bud proceeds the fruiting wood of the following summer, the main shoots always continuing in the position they were first placed in; by this simple method you may always (except when destroyed by severe spring frost) make certain of having a luxuriant crop; the wall of your house, garden, or graperies, clustered over. Regarding the pruning of fruit trees in open quarters, or espaliers, excessive pruning should be avoided, all cross branches, or those cankered, ought to be cut out clean to the parent branch. If the tree has become useless

from neglect, and your soil good, the best method is to head it back to the original stem, and in a few seasons it will produce a good tree. The only way to have fine mulberries, is to keep the knife at work on the head of the tree.

WORK IN THE FLOWER GARDEN FOR JUNE.

The first week sow a few hardy annuals for a succession. Weeds will now be showing their third and fourth leaf, so that they may readily be distinguished; the introduction of a hoe in the early part of a hot day so as to lay their roots open to the midday sun will effectually destroy them. The day after if they are tolerably large and dry they may be raked off the beds. Prepare stakes for the tall perennials and where there is danger of their being injured by the wind tie them neatly up; observe that a stick however well shaped is always an unpleasant appendage to a plant, therefore the more it can be concealed consistent with the purpose for which it is placed, the better. In planting dahlias the stakes should always be put down when the root is planted as it is very likely otherwise to be driven through the best tubers and the root thereby much injured. There is a great art in tying up flowers neatly, so that on one hand they may not look too prim and unnatural, while on the other they may be properly secured. Do not omit cutting off the ends of the bass neatly.

The first sown annuals will now be sufficiently grown to be thinned, and this must be done unsparingly, or the result will be nothing but wiry, straggling and unsightly plants, bearing small half formed flowers.

Attend particularly to roses, look them over constantly, and destroy the small brown grub which eats into the heart of the bud. The brown and green aphis must also be taken off; the best method of effecting this is with the syringe, once in the week syringe them with tobacco water and every other day with fresh water, omit the tobacco when the color shows in the bud, and indeed pure water if frequently applied will be effectual; the difference this operation makes in the freshness and brightness of the flower and foliage is astonishing. We recommend the ladies to walk early in the morning about the rose bushes with a basket and pair of scissors to cut the roses which are about to fall, but our fair friends must use the

basket, for if left under the bushes they have an unsightly appearance, and if they remain on the trees they prevent the other buds from coming to perfection, by exhausting the juices in forming fruit and ripening seeds.

Keep all the primulæ tribe rather dry and sheltered from the heat of the sun; take up hyacinths, crocus and all other bulbs of which the leaves have withered.

Sow biennials, as Canterbury bell (campanula medium) Snap-dragon (antirrhinum), Calceolaria, Commelina, Pinks (Dianthus), Carnations, Digitalis, Polyanthus, and many others if not sown the latter end of May.

The tender annuals may about the second week be moved to their destined place from the frame; they should, however, be gradually inured to the open air and be covered up in the evening, at the beginning of the month if the weather portend cold nights, and left exposed during the day. For the first two or three days after final transplantation cover them with an earthen garden pot during the midday to shade them from the sun, leaving the hole in the pot open. Those tender annuals which are to remain in pots to flower, such as Balsams, Cockscombs, Sensitive plant, Ice plant, and many others should be potted off the beginning and removed to their last size pot the end of the month observing to give them heat, shade and plenty of water for a few days after shifting.

Keep your lawns and grass verges mown and sheared at least once in three weeks; once every week in wet weather would not be too much, and let one day be set apart every week for the gardener to do nothing but sweep and clear up the garden. Saturday is best employed for this purpose.

It will now be time to remove the plants from the green-house; let a piece of ground be covered with three inches depth of coal ashes to keep out worms, in the form of a crescent, arrange the plants thereon, not too deep but rather extend the circle, place the tallest at the back and the lowest in front. Do not commit the usual fault of crowding them near each other; if they are handsome, well grown plants their forms should not be concealed by a confusion of foliage, and if not well grown they should not remain there to spoil the effect, which in such a collection should be perfect and unbroken. Let every brown leaf and unsightly twig be removed, with all the flowers that have faded. Syringe them well in dry weather in the evening.

J. E. T.

CULTURE OF MILKWEED.

It is recommended in the May No. of the Scientific Tracts, to make an experiment in cultivating milkweed, "because it has been satisfactorily ascertained, that the fibres when wrought, produces a texture quite beautiful, certainly not inferior to silk," "though it is not decided that it will be cheaper than common linen fabric." I lately saw it stated somewhere, that the juice of the plant had been found on examination not to be distinguishable from India Rubber. Perhaps the two uses may render the cultivation of the plant well worthy of attention. W. W.

Dorchester, May 2.

MISCELLANEOUS ARTICLES, COLLECTED BY T. G. F.

On promoting the growth of Fruit Trees, particularly in Grass Land. *By Rev. Mr Germenhausen.* — [From the Transactions of the Economical Society of Leipsic.] — When young trees stand in grass land, or in gardens where the earth is not dug up every year around them and freed from weeds, they do not at first increase properly in growth, and will not thrive so well as those which have been planted in ploughed or hard ground. In orchards, also, the more the ground becomes grassy and converted into turf, the smaller the fruit, and the less its flavor.

Having planted several young plum trees, I covered the ground for years, around the trunks as far as the roots extended, with *flax shows* (the refuse of flax when dressed), by which means these trees, though in a grass field, increased in a wonderful manner, and far excelled others planted in cultivated ground. As far as the shows extended the grass and weeds were choked; and the soil under them was so tender and soft that no better mould could have been wished for by the florist.

The writer states several other experiments, in which by the same means he revived an old languishing plum tree which stood in a grass field, caused it to acquire strong new bark, to produce larger and better tasted fruit, and destroyed the young shoots or suckers which every year before had sprung up about the stem of the tree. He says also that the leaves which fall from trees in autumn may be employed in like manner, but stones or logs of wood must be laid on them to

prevent their being dispersed by the wind. In grass land a small trench may be made about the roots of the tree, when planted, in order to receive the leaves. If flax shows are used this is not necessary; they lie on the surface of the ground so fast as to resist the force of the most violent storms. The leaves which I have found most effectual in promoting the growth and fertility of fruit trees are those of the walnut tree.

Those who are desirous of raising tender exotics from the seed, in order to accustom them to our climate may, when they transplant them, employ flax shows to great advantage. This covering will prevent the frost from making its way to the roots; and rats and mice, on account of the sharp, prickly points of the flax shows will not be able to shelter themselves under them.

New Mode of making Jelly of Fruit. — Press the juice from the fruit; add the proper portion of sugar, and stir the juice and sugar till the sugar is completely melted; and in twentyfour hours it will become of a proper consistence. By this means the trouble of boiling is avoided, and the jelly retains more completely the flavor of the fruit. Care should be taken to stir the mixture until the sugar is completely melted, and fine sugar should be used.

How to Preserve Fruit fresh throughout the Year. — Beat well up together equal quantities of honey and spring water, pour it into an earthen vessel, put in the fruit all freshly gathered, and cover them quite close. When the fruit is taken out, wash it in cold water, and it is fit for immediate use.

Oil or Balsam of Gilead, how obtained. — Put loosely into a bottle of any size as many balm of Gilead flowers as will reach to about one third part of its height, then nearly fill up the bottle with good sweet oil and after shaking it occasionally and letting it infuse a day or two, it is fit for use. It must be very closely stopped, and will then not only keep for years, but be the better for keeping. When it is about half used, the bottle may again be filled up with oil, and well shaken; and in two or three days, it will be as good as at first. The most alarming cuts and bruises of the skin, which are frequently rendered worse by spirituous balsams, salves, &c., are completely cured in a few days, and sometimes in a few hours, by this oil.

GARDENER'S WORK FOR JUNE.

BY T. G. F.

Kitchen Garden. — If the season be at all dry, your garden vegetables will need water. Vegetables that are newly transplanted, as they have their roots more or less diminished, or otherwise injured, often need watering till they have taken new root. But this should be done with caution. If a dry season follow transplanting, let them be watered if they appear to droop, only on evenings, and in cloudy weather, and with water that has been exposed one day at least to the rays of the sun, not with water directly from a well or cold spring, as that will chill the plants. Only a small quantity should be applied at once, that it may have an effect similar to that of a refreshing rain; for water applied too plentifully, sometimes washes away the finest of the mould from the roots or makes little cavities about them, which admits too much air.

Dr Dean observed, that "In a dry season, whole gardens sometimes need watering; and they are happy who have a piece of standing water in their garden, or a rivulet near at hand, from whence the garden may be watered without much labor. Be careful to keep your crops clear of weeds. Thin forward melon, cucumber and squash plants, leaving only two or three in a hill. Attend to your cabbage plants, cauliflower plants, &c., and destroy the cut worm, as directed page 191. Thin out and earth up all your plants; and recollect that frequent hoeing is a substitute for rain, and serves as manure to vegetables. Support the stems of such plants as were planted out for seed. Onions and leeks, in particular, will require attention of this kind; for their stalks will soon shoot up to considerable height, and should be secured in season, or winds and rains will beat down and spoil them. Seed cabbages and other tall growing plants will require similar care.

M'Mahon observes that "The best method of supporting plants, intended for seed is to drive firm stakes into the ground along the rows, placing them about two or three yards asunder; then let some thin long poles, or strong lines be fastened from stake to stake, close along each side of the seed stalks." The same method has been adopted with success to support peas, &c., in rows. Weeds after being cut up with a hoe, &c., should not be left to wither, or to rot above ground, but should be covered with soil, buried between rows of vegetables, or carried to the hog pen or manure heap. Stir the ground about your plants in due season.

A cultivator to run between rows of plants, where it can be effected, will, in a great degree answer the purpose of both ploughing and hoeing. Sometimes deep hoeing is useful in order to prevent the soil from becoming too compact, which hinders the roots from extending themselves freely in search of their food. At other times, and particularly when the roots are considerably extended, hoeing should cease, or be but superficial. But never suspend hoeing in consequence of drought, for the more the ground is stirred the less it will suffer from dry weather.

About the beginning of this month melons, cucumbers, &c., which have been protected by glasses or paper frames may be exposed to the air, having been previously inured gradually thereto. A piece of shingle, a bit of board or slate may advantageously be placed under each fruit of your early melons to preserve them from the dampness of the earth. This, however, judging from present appearances will not be necessary for plants raised in the open air till some time in July or August. With regard to protecting melons, squashes, &c., against bugs and flies, we believe the best and safest way will be to enclose the young plants with wooden frames, covered with millinet. Towards the last of this month celery plants may be set out in trenches. When the plants have grown as high as eight or ten inches, draw earth about them, breaking it fine. This should be done in dry weather, being careful not to bury the heart. Plant out cabbages, cauliflowers, broccoli, &c. in moist or cloudy weather, but not when the ground is wet and heavy. Perhaps, towards the last of this month it will be the right season to cut and dry many sorts of herbs, such as mint, balm, lavender, sage, rosemary, &c. These are gathered for drying, for distillation and other purposes. They should be cut off, when just beginning to come into flower, and laid in the *shade* to dry gradually, which will render them much better for every purpose than if they were dried in the sun. Hoe and bush peas; plant more potatoes, succession crops of kidney beans, peas, small salads, and lettuce every week or ten days.

Fruit, Garden and Orchard. — The direction for last month, under this head will mostly apply to the labors of the present. Should your cherries be sufficiently ripe to invite the trespasses of birds it will be expedient to hang up nets wherever practicable to keep birds at a distance from the fruit. Watering the strawberries, if the weather be at all dry will cause their fruit to set well and to swell freely. Let not, however, water be given *over* the plants but *between* them,

lest you wash off the pollen or fecundating dust from the flowers, and thus prevent their setting fruit. Sir Joseph Banks, from a variety of experiments recommended laying straw under strawberry plants, when the fruit began to swell, by which means the roots are shaded from the sun, and waste of moisture by evaporation prevented, the leaning fruit kept from damage, by resting on the ground, particularly in wet weather, and much labor in watering saved. Others have recommended placing pine boards, shingles, slates, or grass cut from lawns on the ground between the rows, and under strawberry plants. Grass is said to be useful in a particular manner, by shading and manuring the ground, at the same time that it makes a clean bed for the fruit to rest on. If any of your peach trees, nectarines, and apricots, more especially young trees appear to be over burdened with fruit, the surplus should be pulled off, and no more be left than you may judge the trees will support and bring to full maturity without being injured by overbearing.

Vineyard. — Though vines may now require some attendance, great care will be necessary lest the blossoms should be broken off or injured. Let the shoots, as they advance, be tied up to stakes, but not too close. Towards the end of the month, or when the bloom is over, and the fruit is set, if the weeds have made much progress they should be extirpated by the most convenient means, by the hoe, the plough, cultivator, or otherwise.

"Young vines of one two or three years' growth, should now be carefully tied to the poles placed for their support, and never suffered to trail about on the surface of the earth; the ground must be kept perfectly free from weeds, as these would rob the plants of a great portion of their nourishment, and exhaust the ground to no purpose."*

The Nursery. — "Most kinds of evergreens and deciduous trees and shrubs may now be propagated by laying the present year's shoots; being soft and tender, they will emit roots much more freely than the older wood; and several sorts that would not root for two years if laid in the spring or autumn, by this method, will be well rooted the autumn twelve months after laying, and many kinds before the ensuing winter."†

* M'Mahon. † Ib.

TRILLIUM PICTUM.

For the Horticultural Register.

Pendleton's Lith. Boston.